ham under Edward Thring, and at Balliol under Benjamin Jowett, with fellow-undergraduates who in various ways became men of light and leading. As a poet and preacher, and in general a quickener of life and energy wherever demands were made upon his active genius, he met with well-deserved appreciation. As the obituary notice in the *Times* observes, "perhaps his chief work was the founding of the National Trust for the Preservation of Places of Historic Interest and Natural Beauty." For the qualifying word "perhaps" it would be better to substitute the word "undoubtedly." Men like Canon Rawnsley, by setting a courageous example, often accomplish much more than their immediate object.

BY the death, at fifty-eight years of age, of DR. GEORGE ERNEST MORRISON, "Morrison of Peking," as he was familiarly known, the Empire has lost a great explorer and expert in the politics of the Far East. An Australian by birth, Dr. Morrison began by explorations in that continent, New Guinea, and the South Sea Islands, his most notable exploit being his famous crossing from the Gulf of Carpentaria to Melbourne in 1882, when he marched 2043 miles on foot in 123 days. Coming to Europe, he took his degree of M.D. at Edinburgh, and wandered in the United States, Spain, and Morocco. Reaching China, he crossed to Rangoon and explored Siam. His life-work really began in 1897, when he was appointed correspondent of the *Times* at Peking. Here he recorded from day to day with the prescience of a statesman and the accuracy of a historian the momentous struggle which resulted from the German occupation of Kiao-chao, and he took an active part in the defence of the Peking Legations during the Boxer rising of 1900. In 1907 Dr. Morrison crossed China from Peking to Tonquin, and in 1910 he rode from Honan City to Andijan in Russian Turkestan. Two years later he resigned his post as correspondent of the *Times*, and became political adviser to the first President of the Chinese Republic. During his stay in Peking he collected one of the most comprehensive libraries of Chinese literature. His contributions to the study of the Far East, except his well-known book, "An Australian in China," largely consist of newspaper articles.

WE much regret to announce the death, on May 28, in his forty-third year, of PROF. LEONARD DONCASTER, F.R.S., fellow of King's College, Cambridge, and Derby professor of zoology in the University of Liverpool.

WE notice with regret the announcement in the *Times* of the death in India, at the early age of thirty-two years, of PROF. SRINIVASA RAMANUJAN, F.R.S., fellow of Trinity College, Cambridge, and distinguished by his brilliant mathematical researches.

Notes.

THE Romanes lecture at Oxford was delivered on May 27 by Dr. Inge, Dean of St. Paul's, before a large audience, by whom the lecturer's brilliant epigrams and trenchant criticism of conventional catchwords were evidently much appreciated. Dealing with the "idea of progress," the Dean made it clear that he had no belief in any natural law of continued progress in the sphere of morals or intellect, or even of physical organisation. The conception of such a law was, in fact, of comparatively recent growth, and had no foundation in the thought of antiquity or of the Middle Ages. At the same time he would not deny a temporary improvement of the race in fulfilment of a finite purpose, though he found little or no evidence of any advance during the historical period in either physical organisation or morals. The results of accumulated experience must not be confounded with a real progress in human nature. Dean Inge would scarcely be concerned to deny that the emergence of rational humanity from previous non-human conditions deserved in some sort the name of "progress," but he saw no warrant for the belief that such "progress" would be continued indefinitely under the domain of natural law. Huxley had pointed out in a previous Romanes lecture that ethical improvement ran counter to the process of cosmic evolution. Progress was a task for humanity, not a law of Nature. Civilisation was a disease that had hitherto been invariably fatal. The ancient civilisations had fallen by the attacks of outer barbarians; "we breed our own barbarians." But progress was possible for the individual, if not for the race, and hope was not only a virtue, but also a solid fact.

ON May 17 Mr. H. Morris, of Lewes, read a paper to the Oxford University Archæological Society on the evolution of Wealden flint culture from pre-Palæolithic times, including that of Piltdown Man. He exhibited many flints, which he claimed as intermediate between the early Harrison types of the North Downs plateau and the recognised Palæolithic types, representing man's transition from the stage in which he subsisted on a vegetable diet to the hunting stage. The earliest spear-head accompanies the Piltdown skull and marks the beginning of man the hunter. The flints are confined to a limited number of patches, and many prolific "river gravel" areas fail to produce anything resembling them; the proportions in which the various types appear are found to agree closely in all the patches. When the cortex of the flint did not interfere with the design of the implement, it has been cleverly and intentionally preserved; many of the fractures are of thermal origin, but man utilised these natural fracture-surfaces in the same way as he utilised cortex. It is significant that signs of man's work appear only in the places where it is essential for the attainment of the required form. Sir Arthur Evans, Prof. Sollas, Dr. Marett, Mr. Henry Balfour, Mr. Reid Moir, and others discussed Mr. Morris's paper, and hesitated to accept his conclusions.

A SUDDEN flood swept through the Lincolnshire town of Louth on Saturday afternoon, May 29, causing immense havoc in its path. The torrent took the course of the small stream known as the River Lud, which runs through the town, and rose 15 ft. in half an hour. The disaster, which occurred shortly before 5 o'clock, is described as a huge wall of water sweeping down upon the town and carrying away bridges and buildings opposed to its course. The River Lud in normal times is a stream from 12 ft. to 15 ft. wide, and about 2 ft. or 3 ft. deep. The flood is said nowhere to have been less than 8 ft. to 10 ft. high and fully 200 yards wide. It was apparently accompanied by no warning sound, and the torrent of water is said to have exceeded the rate of 40 miles an hour. The loss of life is reported to be from 25 to 40 persons, and the damage to property is roughly estimated at 250,000*l*. to 500,000*l*. A heavy thunderstorm had raged for two hours in the afternoon. The disaster was, without doubt, due to intense thunderstorm rains swelling the river far beyond the capacity of its channel. The "Meteorological Glossary" published by the Meteorological Office describes a "cloud-burst" as a term commonly used for very heavy thunder-rain, and in this sense the term seems applicable to the cause of the Louth disaster.

THE new by-laws of the Chemical Society came into force on June 1, and women are now eligible for fellowship of the society.

THE annual visitation of the Royal Observatory, Greenwich, will be held on Saturday next, June 5. The observatory will be open for inspection by invited visitors at 3.30 p.m.

DR. FREDERICK G. COTTRELL has been nominated by President Wilson as Director of the U.S. Bureau of Mines, Department of the Interior, in succession to Dr. Van. H. Manning, resigned.

THE Stewart prize of the British Medical Association has been awarded by the council to Dr. Harriette Chick, who has been an assistant in the department of experimental pathology at the Lister Institute since 1906, and has published numerous papers on bacteriology and physical chemistry.

BY the courtesy of the council of the Institution of Mechanical Engineers, the next ordinary scientific meeting of the Chemical Society on June 17 at 8 p.m. will be held in the lecture-hall of the Institution of Mechanical Engineers, Storey's Gate, Westminster, S.W.1, when Prof. J. C. McLennan, of Toronto University, will deliver a lecture on "Helium."

A JOINT meeting of the Association of Economic Biologists and the Imperial Entomological Conference will be held at the Rothamsted Experimental Station, Harpenden, on June 4. The party will leave St. Pancras Station by the 10 a.m. train and, on arrival at Harpenden, proceed direct to the park, where the experimental plots will be demonstrated by Dr. W. E. Brenchley.

SIR WILLIAM J. POPE has accepted the nomination of the council of the Society of Chemical Industry to be president for the year 1920–21. Prof. H. Louis has been elected foreign secretary in succession to the late Dr. Messel, and Dr. C. C. Carpenter has been appointed the society's representative on the governing body of the Imperial College of Science and Technology.

AT the meeting of the Franklin Institute, Philadelphia, on May 19, the Franklin medal awarded to the Hon. Sir Charles A. Parsons was received by Sir Auckland Geddes, British Ambassador; and Mr. W. A. F. Ekengren, Swedish Minister, also received a Franklin medal for Prof. Svante A. Arrhenius. Papers were presented on "Some Reminiscences of Early Days of Turbine Development" by Sir Charles A. Parsons, and on "The World's Energy Supply" by Prof. Arrhenius.

THE national memorial to the late Capt. F. C. Selous at the Natural History Museum, Cromwell Road, South Kensington, will be unveiled by the Right Hon. Viscount Grey of Fallodon, K.G., on Thursday next, June 10, at 3.30 p.m. The presentation will be made by the Right Hon. E. S. Montagu, M.P., chairman of the committee. The granite of the bas-relief which forms the memorial is from the Matoppo Hills, the burial-place of Cecil Rhodes and Sir Starr Jameson, and was presented to the Selous Memorial Committee by the Government of the Union of South Africa.

THE Imperial Entomological Conference was opened in London on Tuesday, June 1, by Lord Harcourt. The official delegates to the conference are:—Canada, South Africa, Basutoland, Bechuanaland, and Swaziland, Mr. C. P. Lounsbury; Australia, Prof. R. D. Watt; New Zealand, Dr. R. J. Tillyard; India, Mr. C. F. C. Beeson; Queensland, Mr. F. Balfour Browne; British Guiana, Mr. G. E. Bodkin; Ceylon, Mr. F. A. Stockdale; East Africa Protectorate, Mr. T. J. Anderson; Federated Malay States, Mr. P. B. Richards; Gold Coast, Mr. W. H. Patterson; Imperial Department of Agriculture for the West Indies and Leeward Islands, Mr. H. A. Ballou; Mauritius, Mr. G. G. Auchinleck; Northern Rhodesia, Dr. Aylmer May; Southern Rhodesia, Mr. R. W. Jack; Seychelles, Dr. J. B. Addison; Sierra Leone, Mr. H. Waterland; Straits Settlements, Mr. P. B. Richards; Sudan, Mr. H. H. King; Trinidad, Mr. F. W. Urich; and Uganda, Mr. C. C. Gowdey.

IN the May issue of the *Fortnightly Review* Mr. Edward Clodd gives an account of the prevalence of occultism at the present day. This results from the fact that though man calls himself *Homo sapiens*, his instincts and elemental passions and emotions remain primitive. Prof. Elliot Smith in a recent paper on "Primitive Man" remarks that, "so far as one can judge, there has been no far-reaching and progressive modification of the instincts and emotions since man came into existence beyond the acquisition of the necessary innate power of using more complex cerebral apparatus which he has to employ." *Plus ça change, plus c'est la même chose.* The influence of the present movement, and the mischievous play on the hopes and fears of crowds of dupes of all classes of society, are strongly reprobated. "Its exponents lack the harmlessness of the cranky theorymongers who, if they have wasted our time in the pamphlets they thrust upon us, at least in some degree condone this nuisance by the amusement which they supply."

SIR W. RIDGEWAY AND DR. L. D. BARNETT have reprinted a paper read by them before the Cambridge Philological Society on "The Origin of the Hindu Drama: Additional Evidence." The theory that this type of drama had its origin in dances connected with the cult of the dead is supported by a new series of facts. Krishna, whether he be regarded as a deity from all time or merely a vegetation abstraction, was, as was suggested by S. Lévi in 1892, the chief element in the Hindu drama. The defeat of the Asura demons by Indra took a dramatic form, in which the god's flagstaff became the emblem of the stage, recalling the pole known to the Japanese as Mitegura, "Lordly-Cloth-seat," and to the Chinese Gohei, "Imperial Presence." In the same way the Vīr, or spirits of men who died on the battlefield, are "danced" by the Mahrattas. Other evidence to the same effect has been collected from other parts of India, and the writers sum up the discussion by remarking that "there can therefore be no longer any doubt that Hindu serious drama arose in the worship of the dead."

IN the Journal of the Royal Society of Antiquaries of Ireland (vol. xlix., part 2, December, 1919) Mr. R. J. Kelly, K.C., discusses the question of the famous Donnybrook Fair. On the authority of the great Irish scholar, Dr. Todd, the name seems to be derived from Domhnach broc, "the Church of Broc," a saint who seems to have flourished before the eighth century. By a charter of Prince John, bearing date 1192, the city of Dublin was authorised to establish a fair "at Doniburn annually to continue for eight days on the Feast of the Invention of the Holy Cross," and this was confirmed by a charter, 26th of Henry III., dated 1241. The rude merriment, crime, and degradation which occurred during the fair finally led to its abolition in 1855, after it had lasted nearly six and a half centuries. Mr. Kelly's article contains an excellent collection of extracts from contemporary writers describing the famous fair. Further details are given in the same issue of the journal in an article by Mr. H. Bantry White on "An Old House at Donnybrook."

MISS ANNE L. MASSY gives (Sc. Proc. Roy. Dublin Soc., vol. xvi., No. 4, April, 1920) a revised list of the twenty-five species of Holothurioidea ("sea-cucumbers") of the coasts of Ireland. Since the publication in 1905 of Mr. Kemp's paper on the Echinoderms of the west coast of Ireland, the naturalists of the Fisheries Branch of the Department of Agriculture have taken three species of Holothurians which are new to the British and Irish area, namely, *Stichopus regalis, Mesothuria Verrilli,* and *Benthogone rosea.* The first of these occurs in the Mediterranean, and is known as far south as the Canaries, but has not hitherto been observed north of the Bay of Biscay. The other two appear to inhabit the warmer parts of the Atlantic, and probably reach their northern limit at about 52° N.

DR. H. A. PILSBRY'S "Review of the Land Mollusks of the Belgian Congo, chiefly based on the Collections of the American Museum Congo Expedition, 1909–1915" (Bulletin of the American Museum of Natural History, vol. xl., art. 1, 1919), is a very important contribution to our knowledge of the African fauna. The collections on which it is based are very extensive, comprising more than 6000 specimens representing 214 species and subspecies, and a complete record of all the land molluscs hitherto known from the region (compiled by Dr. J. Bequaert) is included. Large numbers of carefully preserved spirit-specimens were available, and Dr. Pilsbry was able to study the anatomy of the soft parts with important results. In the case of the Helicidæ, of which the tropical African representatives have hitherto been known by the shells alone, he has been able to show that their affinities are not, as had been supposed, with the European genera of the family, but with the Asiatic. The field notes are contributed by Mr. Herbert Lang, whose account of the bionomics, economic uses, and folk-lore of the giant Achatinidæ is of particular interest. His remarks on the dispersal of certain species over large areas by the agency of man are worthy of note as having possibly a wider application. The memoir is very fully illustrated, and some of the coloured plates are of exceptional beauty.

WE seem to have much to learn about even the commonest of marine organisms, and the exceedingly abundant and almost cosmopolitan protozoon Noctiluca—a frequent cause of luminescence in the sea—has just received at the hands of Prof. C. A. Kofoid, of the University of California, a new interpretation which, if accepted, will necessitate a change in classification involving the removal of that supposed Cystoflagellate from its accustomed position and its incorporation in another group of the Flagellata ("Noctiluca," Univ. of Cal. Publicns. in Zool., vol. xix., No. 10, February, 1920). Prof. Kofoid is the recognised authority on the groups in question, and no one is more competent to express an opinion on the matter. In describing several new and remarkable genera of the Dinoflagellata from the Pacific related to Gymnodinium, he points out that Noctiluca may have its essential morphological characters homologised with those of various new highly specialised tentacle-bearing forms, such as *Pavillardia tentaculifera.* Noctiluca, then, according to these new investigations, is not exceptional amongst Dinoflagellates in bearing a tentacle, and may be interpreted as having a girdle, a sulcus, and two flagella like any other more ordinary Peridinian. The statement, however, that the "tooth" or prehensile organ represents the degenerate transverse flagellum may possibly be regarded as open to doubt. The acceptance of this work means that the order Cystoflagellata, established by Haeckel in 1878 for the reception of Noctiluca, and adopted by most writers since, should be either suppressed or emended. Noctiluca is no longer its type for text-book and lecture.

A CONCISE record of botanical exploration in Chile and Argentina is given in the *Kew Bulletin* (1920, No. 2) by W. B. Turrill. Among the earliest explorers were the French botanist, Philibert Commerson, who was surgeon and naturalist to Bougainville's expedition (1767–68), and Sir Joseph Banks, who with Daniel Solander accompanied Cook on his first voyage round the world (1768–71), and brought home extensive botanical collections from the southern hemisphere. The collections of the Spanish naturalists, Ruiz and Pavon, at the close of the eighteenth century were the foundation of an important work on the flora of Peru and Chile. John Miers spent several years in La Plata and Chile, accumulated a large herbarium (now at the British Museum), and published monographs of various South American families of plants. Charles Darwin visited Argentina, Chile, and Patagonia, and Sir Joseph Hooker in his work on the Antarctic flora contributed largely to our knowledge of the botany of the Magellanic area. Valuable botanical exploration was also carried out by collectors sent out by the firm of Veitch—William Lobb and Richard Pearce. The Philippis, father and son, worked for nearly fifty years, collecting and publishing extensively on the flora of Chile. These are a few only of the long list of botanists and collectors chronicled by Mr. Turrill, who, in conclusion, points out that there is still scope for botanical exploration, especially on the Argentine side of the Andes.

IN view of the present high prices of sugar, considerable interest is being taken in the question of the possibilities of sugar-beet production in England. The Weekly Service for April 3 from the Ministry of Agriculture and Fisheries contains some useful information on this point. Even apart from the production of sugar, sugar-beet is a useful crop to grow. The food for stock would not be materially reduced by substituting sugar-beet for roots in the rotation, while both leaves and by-products make excellent cattle food. To ensure good crops the land has to be very thoroughly cultivated—a process which reacts favourably on subsequent crops—and there is the further advantage that the crop gives a direct monetary return. Extensive trials were made before the war, and these showed that many parts of the country are suitable for large-scale production of sugar-beet for the manufacture of sugar; but it must be clearly understood that, owing to the bulky nature of the crop and the consequent difficulties of transport, it is advisable to grow beet for sugar production only when the land is within reasonable transport distance of a factory.

STUDENTS of the continental deposits of the Old Red Sandstone and Triassic days may well take note of the illustrative matter provided in South Africa and described concisely by Mr. Wm. Torrance ("Observations on Soil Erosion," Union of S. Africa, Dept. of Agric., Bull. 4, 1919, price 3*d*.). The numerous photographs are small; but some, like that of the infilled vlei at Grootfontein, are highly suggestive.

AMONG the many well-produced Water-Supply Papers of the United States Geological Survey which have reached us are several dealing particularly with the surface water-supply for the year ending September 30, 1916. Work of this nature was begun many years ago in connection with studies of irrigation problems in arid areas, but a particular effort was made in 1915–16 to obtain synchronous observations of the flow of streams. The data supplied for each gauging station in the area covered by each report include a description of the station and tables giving the daily, monthly, and yearly discharge. Illustrations of current meters and water-stage recorders are given.

THE reclamation of salt soils is an important agricultural problem in India. Without a soil survey it is impossible to say what area is affected, but in Sind, and to a less extent in the Punjab and the United Provinces, it must be considerable. These so-called alkali lands are either uncultivable or injurious to the growth of crops. "Notes on Practical Salt-Land Reclamation" is the title of a paper published as Bulletin No. 91 by the Agricultural Research Institute, Pusa. Mr. G. S. Henderson, the author of the paper, examines the methods employed in Egypt in the reclamation of Lake Aboukir in the Nile delta, and draws some useful conclusions as to comparable work in India. He insists that the Egyptian method of washing the salt into the subsoil is the only effective way of dealing with the problem. Periodical surface washing is unsatisfactory. It is pointed out, however, that until the Indus barrage is completed there is not enough water in Sind for this purpose, all the available supply being required for irrigation.

THE Germans during the war, when materials were short, gave a certain amount of attention to the utilisation of blast-furnace slags, and succeeded in obtaining a satisfactory cement after many experiments. A new use for slag is foreshadowed in an article in *Stahl und Eisen* (March 4), viz. for the manufacture of light bricks for building purposes. By passing molten slag horizontally through water, the steam generated blows out or extrudes the slag jet, and forms what the Germans term "spume" slag or artificial pumice-stone. This material has been patented under the name of "thermosite," owing to its excellent heat-insulating properties. The patentee has also invented a press for pressing bricks formed of small pieces of this artificial pumice and a mixture of slag, sand, and slaked lime which is used as a binder. The bricks thus formed are strong and light, and resemble in their properties the alluvial (tuff) stone obtained in the neighbourhood of Andernach. As, in addition, they can be pressed to large dimensions, less mortar will be required in building operations. The German authorities have approved of the new type of brick for house-building.

IN the *Revue générale des Sciences* for April M. Florentin gives an interesting account of the French experience of German gas warfare, with full chronological details of its development and an account of the properties of the substances used, as well as of their mode of manufacture. The section of the French Gas Service under M. Kling, director of the Paris Municipal Laboratory, examined about 2400 samples of material, of which half were shells and projectiles, M. Grignard devoting himself specially to the detection of impurities which might reveal the modes of manufacture. Reference is made to the Central Laboratory of the British at Hesdin under the late Prof. Watson, and the great rapidity with which new enemy materials were detected is attributed to the excellent *camaraderie* which always prevailed between the French and British Gas Services. The article also contains a summary of the report of the French Mission on the chemical works in the area of occupation, including statistics of the output. In conclusion, M. Florentin expresses the hope that the war has demonstrated the inseparability of chemistry and national defence and the importance of developing the scientific and industrial research which was initiated in France by gas warfare.

WE have received from Messrs. Wood Bros. Glass Co., Ltd., of Barnsley, a copy of their catalogue of English chemical glassware. The list of apparatus is a comprehensive one, well-arranged and neatly illustrated. Judging by the particulars given, chemists should have no difficulty in obtaining any of the usual flasks, beakers, burettes, gas pipettes, absorption tubes, or other glass instruments employed in the laboratory from the selection offered; and as regards any special apparatus in glass that experimenters may want the makers invite inquiry. Messrs. Wood are old-established glass manufacturers who took up the making of chemical glassware in 1915, and they claim that, following the indications given by Sir Herbert Jackson's work on the composition of various special kinds of glass, supplemented by the investigations of their own staff, they are able to produce ware superior to the best Jena glass in its resistance to the action of strong chemicals. It does not withstand sudden extreme changes of temperature quite so well, but will, it is claimed, stand being plunged whilst at a temperature of 150° C. into cold water, and this is more than sufficient for all ordinary requirements. The shapes and designs of ware adopted are those approved by the Glass Research Committee of the Institute of Chemistry, and it would appear generally that the aim of the makers is the praiseworthy one of producing apparatus of high quality in close relation to scientific needs. A feature is made of standard volumetric apparatus verified and stamped by the National Physical Laboratory.

MR. S. EVERSHED read a paper on permanent magnets in theory and practice to the Institution of Electrical Engineers on May 13. He practically adopts Ampère's theory that the molecules of iron in a magnet are equivalent to electric circuits of no resistance in which electric currents are always flowing. On this hypothesis, and adopting Hopkinson's formula connecting magneto-motive force, reluctance, and flux, he discusses the design and predetermination of permanent magnets. He points out that since in practice the demagnetisation curve of the steel is known, the problem that has to be solved is to find the shape of the minimum volume of steel required to produce a given quantity of external magnetic energy. By making assumptions as to the reluctance of the paths of the magnetic flux, Mr. Evershed proves that the performance of a permanent magnet can be predicted in certain cases with accuracy. We are not sure, however, whether this is due to the fact that the errors made in his assumptions cancel out one another. We fail to understand his formula for the magnetic conductance between two spherical poles. It would be true if they were at an infinite distance apart, but appreciable errors come in when the distance between them is less than a hundred times the radius of either. It is easy to show that the magnetic conductance between two spherical poles equals 4π times the electrostatic capacity between their surfaces. Hence, as the electrostatic capacities have been tabulated, the magnetic conductances could be written down at once with high accuracy. From the engineering point of view the paper is valuable, as the subject is of practical importance to manufacturers.

PROF. W. W. WATTS, lecturing to the South Kensington Branch of the National Union of Scientific Workers on May 27 on "The Evolution of the Bicycle," showed that the development of this, as of any mechanical apparatus, took a similar course to that observed in biological evolution. It was largely a process of trial and error; advance was usually in small details of specialisation, and, as in the case of the high bicycle, development was apt to take place in a "blind lead" by following out a wrong principle. The lecture will be reported in the next issue of the *Scientific Worker,* copies of which can be obtained from the Secretary, N.U.S.W., 19 Tothill Street, S.W.1, by sending a stamped addressed envelope.

KODAK, LTD. (Wratten division), have just issued a new series of nine circular light-filters to facilitate visual work with the microscope. They are 35 mm. in diameter, and so fit the standard turn-out ring usually available in sub-stage fittings. Six are for increasing the contrast in stained or coloured preparations, one is blue and serves for getting the highest resolving power, one a neutral tint for modulating the intensity of the illumination, and the ninth converts the light from metal filament vacuum lamps into the equivalent daylight. This last is also of service with other light sources, such as the new thorium pastille gas lamp and the usual paraffin lamps. Its use gives the same colour values as daylight, and so reduces or eliminates eye-strain when observations are long continued.

IN a small leaflet entitled "Radium Facts," received from Messrs. Watson and Sons, are collected numerous data relating to radio-active substances useful to intending purchasers. From it we learn that, whereas the total production of radium to date by the Standard Chemical Co., of Pittsburgh, was 50 grams of radium element, its present output is at the rate of 18 grams of the element per annum. We understand that this output could be increased to 50 grams of radium element yearly if the demand for such a quantity should arise—a very considerable national asset. It is interesting to observe that the present total available supply of high-grade purity radium in the world is estimated to be about 120 grams.